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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/848,780

05/18/2004

Edgar C. Robinson

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7590 01/25/2007  
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EXAMINER

BOLES, DEREK

ART UNIT

PAPER NUMBER

3749

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/25/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/848,780

Applicant(s)

ROBINSON, EDGAR C.

Examiner

Derek S. Boles

Art Unit

3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 24-26 is/are allowed.
- 6) ☐ Claim(s) 1-11 and 27-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) 12-23,30 and 31 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 5/2/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4, 8, 27, 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Enander (5025985). See fig. 2a, col. 7, line 46 to col. 8, line 14, 48 for the burner and 53 for the exhaust pipe. Regarding claim 4, see col. 8, line 7.

### ***Claim Rejections - 35 USC § 103***

Regarding claims 2, Enander discloses all of the limitations of the claim except for the exhaust stack having a rectangular cross-section. However, since the applicant has failed to establish any criticality or synergistic results which are derived from the recited configurations, these limitations are considered a matter of obvious design choice. Thus, the applicant's design configurations would have been an obvious improvement to one of ordinary skill in the art with regard to the apparatus disclosed in Enander.

Regarding claim 5, Enander discloses the claimed invention except for a second pass through the water jacket. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide multiple passes through a water jacket depending on the desired heat transfer, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

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Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enander. It is well-known in the art of HVAC that a heat exchanger (i.e. an exhaust stack) with more or less surface area contacting a heating medium would create more or less heat transfer. Thus, it would have been obvious to one of ordinary skill in the art to incorporate the features of an exhaust stack contacting liquid on all sides into the system of Enander for the purpose of better heat transfer.

Claim(s) 9, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Enander in view of Moore, Jr. et al. (4,925,093). Enander discloses all of the limitations of the claim(s) except for operating components associated with the heating system being located within a housing which surrounds the burner. Moore, Jr. et al. discloses the presence of a operating components associated with the heating system being located within a housing which surrounds the burner. See col. 7, lines 50-64, 54 and fig. 3. Hence, one skilled in the art would find it obvious to modify the system of Enander to include the operating components associated with the heating system being located within a housing which surrounds the burner of Moore, Jr. et al. for the purpose of compactness. Regarding claim 11, see 40 and 45.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Enander. It is well-known in the art of HVAC to design a room liquid to air heat exchanger with a blower. Thus, it would have been obvious to one of ordinary skill in the art to incorporate the features of a blower into the heat exchanger of Enander for the purpose of faster room heating. See 28 and col. 6 lines 60-67.

***Allowable Subject Matter***

Claims 24-26 allowed.

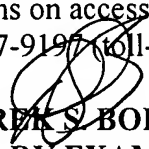
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*Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The provided references are representative of the state of the art that is applicable to the applicant's invention. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derek S. Boles at (571) 272-4872 or supervisory patent examiner Josiah Cocks at (571) 272-4874.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D.S.B.

  
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1/16/07